Section I
Abbreviations

AC
Asphalt concrete

OSHA
Occupational Safety and Health Administration

PCC
Portland cement concrete

PFC
Porous friction course

PFS
Porous friction surface

USCS
Unified Soil Classification System

Section II
Terms

Admixture
A material other than water, aggregates, hydraulic cement, and fiber reinforcement used as an ingredient of concrete or mortar and added to the batch immediately before or during its mixing.

Aggregate
A granular material of mineral composition such as sand, gravel, shell, slag, or crushed stone, used with a cementing medium to form mortars or concrete, or alone as in base courses, railroad ballasts, etc.

Base course
A layer of specified selected material of planned thickness constructed on the subgrade or subbase of a pavement to serve one or more functions such as distributing loads, providing drainage, or minimizing frost action.

Blow-up
Blow-ups or buckles occur in hot weather, usually at a transverse crack or joint that is not wide enough to permit slab expansion. The insufficient width is usually caused by infiltration of incompressible materials into the joint space. When expansion cannot relieve enough pressure, a localized upward movement of the slab edges (buckling) or shattering will occur in the vicinity of the joint. Blow-ups can also occur at utility cuts and drainage inlets.

Cold milling
Cold milling is the removal of asphalt concrete by a piece of equipment with a rotating drum containing teeth to mill (grind, pulverize) or remove the pavement in place and without heating.

Cold mix
Cold mix is a patch material made through a combination of cut-back asphalt binder and aggregates.

Cold recycling
Cold recycling is the reuse of old asphalt concrete pavement to make new asphalt concrete pavement without the use of additional heating.

Concrete patches
Patches in PCC pavements made with additional PCC materials.

Corner break
A corner break is a crack that intersects the joints at a distance less than or equal to one-half the slab length on both sides, measured from the corner of the slab. For example, a slab with dimensions of 12 by 20 ft (3.7 by 6.1 m) that has a crack 5 ft (1.5 m) on one side and 12 ft (3.7 m) on the other side is not considered a corner break; it is a diagonal crack.

However, a crack that intersects 4 ft (1.2 m) on one side and 8 ft (2.4 m) on the other is considered a corner break. A corner break differs from a corner spall in that the crack extends vertically through the entire slab thickness, while a corner spall intersects the joint at an angle. Load repetition combined with loss of support and curling stresses usually causes corner breaks.

Cracking
A complete or incomplete separation, of either concrete or masonry, into two or more parts produced by breaking or fracturing.

Crazing
The development of fine random cracks or fissures on the surface; the pattern of craze cracks existing in a surface.

Divided slab
The slab is divided by cracks into four or more pieces due to overloading and/or inadequate support. If all pieces or cracks are contained within a corner break, the distress is categorized as a severe corner break.

Faulting
Differential vertical displacement of a slab or other member adjacent to a joint or crack.

Flexible pavement
Pavement that provides a waterproof surface while using the strength of the underlying pavement structure (base and subbase course and subgrade) to support the load.

Fly ash
The finely divided residue resulting from the combustion of ground or powdered coal and which is transported from the firebox through the boiler by flue gases.

Fog seal
A fog seal is a relatively light application of bituminous material to the surface of an asphalt concrete pavement.

Full-depth patch
A full-depth patch is a patch that extends the full depth of the slab being repaired.

Grooving
Grooving is the placement of a series of grooves or saw cuts (usually V4-in.deep and V4-in. wide) in a pavement surface to improve skid resistance.

Grout
A mixture of cementitious material and water, with or without aggregate, proportioned to produce a pourable consistency without segregation of the constituents; also a mixture of other composition but of similar consistency.

Hot mix
Hot mix refers to bituminous concrete mixed and placed at high temperatures using bituminous cement as the binder.

Hot recycling
Hot recycling is the reuse of old asphalt concrete pavement to make new asphalt concrete through the addition of some new mix constituents and heating at an asphalt plant.

Hydroplaning
Hydroplaning is the process by which a vehicle tire on a saturated surface reaches a sufficient velocity to develop enough pressure to raise the tire off the pavement surface.

Linear cracking
These cracks normally divide the slab into two or three pieces and are usually caused by a combination of repeated traffic loading, thermal gradient curling, and repeated moisture loading. (Slabs divided into four or more pieces are counted as Divided Slabs.)

Macadam
A pavement layer containing essentially one-size coarse aggregate choked in place with an application of screenings or sand; water is applied to the choke material for water-bound macadam. Multiple layers must be used.

Partial-depth patch
Partial-depth patches are used to repair surface defects in PCC pavement requiring removal of material up to approximately one-half the slab thickness.
Deeper repairs or areas with exposed steel should be repaired with a full-depth patch.

Permafrost
Permafrost is the in situ soil in very cold climates which will remain frozen unless the top insulating soil layers are removed.

Popouts
The breaking away of small portions of a concrete surface due to localized internal pressure which leaves a shallow, typically conical, depression; small popouts leaves holes up to 10 mm in diameter, medium popouts leave holes 10 to 55 mm in diameter, large popouts leave holes greater than 50 mm in diameter.

Porous friction course
Porous friction course is an asphalt concrete mixture composed mainly of one aggregate particle size (gap graded), with few fines and a relatively large amount of asphalt cement. It is used as a thin (<1 in.) surfacing to prevent hydroplaning.

Punch out
A punch out for pavements occurs in continuously reinforced concrete pavements (CRCP). Closely spaced transverse and longitudinal cracks occur and deteriorate until small blocks of PCC can be dislodged under traffic.

Recycled materials
recycled materials are existing materials which are reused in some form to produce material for the construction of bituminous or concrete pavement structures.

Rejuvenators
Rejuvenators are generally sold as proprietary products. They are designed to reenliven or rejuvenate old, oxidized asphalt cement on the pavement surface. Sprayed on the pavements surface they normally penetrate and rejuvenate the top V4 in. of the pavement surface.

Rigid pavement
Pavement that will provide high bending resistance and distribute loads to the foundation over a comparatively large area. Usually constructed of Portland cement concrete.

Rutting
A rut is a surface depression in the wheel path. Pavement uplift may occur along the sides of the rut; however, in many instances ruts are noticeable only after a rainfall, when the wheel paths are filled with water. Rutting stems from a permanent deformation in any of the pavement layers or subgrade, usually caused by consolidation or lateral movement of the materials due to traffic loads. Significant rutting can be lead to major structural failure of the pavement.

Scaling
Local flaking or peeling away of the near-surface portion of hardened concrete or mortar. Note: light scaling of concrete does not expose coarse aggregate; medium scaling involves loss of surface mortar to 5 to 10 mm in depth and exposure of coarse aggregate; severe scaling involves loss of surface mortar to 5 to 10 mm in depth with some loss of mortar surrounding aggregate particles 10 to 20 mm in depth; very severe scaling involves loss of coarse aggregate particles as well as mortar generally to a depth greater than 20 mm.

Sheepsfoot roller
A compaction roller with drums from which metal projections (resembling sheep feet) extend for several inches. These projections or feet compact soil from the bottom to the top and the soil is compacted when the roller "walks out." This roller is used for fine grained soils (cohesive).

Skin patch
A skin patch is a thin bituminous concrete patch placed on an already compacted bituminous concrete surface.

Slab
A flat, horizontal or nearly so, molded layer of plain ore reinforced

concrete, usually of uniform but sometimes of variable thickness, either on the ground or supported by beams, columns, walls, or other framework.

Slabjacking

The process of either raising concrete pavement slabs or filling voids under them, or both, by injecting a material (cementitious, noncementitious, or asphaltic) under pressure.

Sod

Sod is a thin layer of soil bound by a grass and root system.

Spall

A fragment, usually in the shape of a flake, detached from a larger mass by a blow, by the action of weather, by pressure, or by expansion within the larger mass; a small spall involves a roughly circular depression not greater than 20 mm in depth and 150 mm in any dimension; a large spall, may be roughly circular or oval or in some cases elongated, is more than 20 mm in depth and 150 mm in greatest dimension.

Squeegee

A squeegee is a blade of rubber, leather, or flexible metal that is attached to a handle and used for spreading, pushing, or wiping fluid materials across pavement surfaces.

Subbase

A layer in a pavement system between the subgrade and the base course, or between the subgrade and a portland-cement concrete pavement.

Subgrade

The soil prepared and compacted to support a structure or a pavement system.

Urea

Urea is a nitrogenous compound used as a deicing material.

Wearing surface

The surface material which is designed to carry the traffic on the pavement structure.